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WHAT IS CLAIMED IS:

1. A method for calibrating a non-invasive blood constituent monitor connected to a traditional measurement system via a data link, the method comprising:

withdrawing an amount of whole blood from a patient;

analyzing a blood constituent in the amount of whole blood with the traditional measurement system and generating a traditional monitor output representing a property of the blood constituent;

placing a thermal gradient inducing element of the non-invasive blood constituent monitor in contact with the skin of the patient;

analyzing the blood constituent in blood within the patient by detecting thermal radiation at selected wavelengths and generating a non-invasive monitor output representing the property of the blood constituent;

comparing the traditional monitor output and the non-invasive monitor output to estimate an error; and

correcting the non-invasive monitor output based on said error.

2. The method of Claim 1, further comprising correcting subsequent non-invasive monitor outputs based on said error.

3. The method of Claim 1, wherein analyzing a blood constituent in the amount of whole blood with the traditional measurement system comprises generating a traditional monitor output representing the concentration of blood glucose.

4. The method of Claim 1, wherein analyzing a blood constituent in the amount of whole blood with the traditional measurement system comprises performing an electro-chemical analysis of the whole blood.

5. A blood constituent monitor comprising:

a non-invasive blood constituent monitor;

a traditional measurement system; and

a data link that transfers data between the non-invasive blood constituent monitor and the traditional measurement system;

wherein the non-invasive blood constituent monitor and the traditional measurement system are permanently connected.

6. The blood constituent monitor of Claim 5, wherein the non-invasive blood glucose monitor further comprises a thermal gradient inducing element and an analyzer window.

7. The blood constituent monitor of Claim 5, wherein the non-invasive blood constituent monitor and the traditional measurement system are configured to be portable.

8. The blood constituent monitor of Claim 5, wherein the traditional measurement system comprises a whole blood withdrawal portion and an analysis portion.

9. The blood constituent monitor of Claim 8, wherein the whole blood withdrawal portion comprises a needle.

10. The blood constituent monitor of Claim 8, wherein the whole blood withdrawal portion comprises a laser.

11. The blood constituent monitor of Claim 8, wherein the whole blood withdrawal portion comprises a lancet.

12. The blood constituent monitor of Claim 8, wherein the whole blood withdrawal portion comprises a finger-stick.

13. A method for calibrating a non-invasive blood constituent monitor connected to a traditional measurement system via a data link, the non-invasive monitor having an analyzer window, the method comprising:

determining whether there is a restricted period in effect;

selecting an on-site or an off-site measurement location based on whether a restricted period is in effect;

performing a traditional measurement of a blood constituent at the selected measurement location using the traditional measurement system;

generating a traditional monitor output representing a property of the blood constituent;

placing the analyzer window of the non-invasive blood constituent monitor in contact with the skin of the patient;

analyzing the blood constituent in blood within the patient with the non-invasive blood constituent monitor;

generating a non-invasive monitor output representing the property of the blood constituent;

comparing the traditional monitor output and the non-invasive monitor output to estimate an error; and

correcting the non-invasive monitor output based on said error.

14. The method of Claim 13, wherein placing the analyzer window of the non-invasive blood constituent monitor in contact with the skin of the patient comprises placing the analyzer window in contact with the skin of the patient on-site or off-site based on whether a restricted period is in effect.

15. The method of Claim 13, wherein placing an analyzer window of the non-invasive blood constituent monitor in contact with the skin of the patient further comprises placing a thermal gradient inducing element of said non-invasive blood constituent monitor in contact with the skin of the patient.

16. The method of Claim 13, further comprising correcting subsequent non-invasive monitor outputs based on said error.

17. The method of Claim 13, wherein performing a traditional measurement comprises:

withdrawing an amount of whole blood from the patient, and

analyzing the blood constituent in the amount of whole blood with the traditional measurement system.

18. The method of Claim 13, wherein generating a traditional monitor output representing a property of the blood constituent comprises generating a traditional monitor output representing the concentration of blood glucose.

19. The method of Claim 13, wherein performing a traditional measurement comprises performing an electro-chemical analysis of the whole blood withdrawn.

20. The method of Claim 13, wherein determining whether there is a restricted period in effect comprises measuring an amount of time since a subject has eaten.

21. The method of Claim 20, wherein the amount of time measured is from about .5 hour to about 3 hours.

22. The method of Claim 20, wherein the amount of time measured is from about 1 hours to about 2 hours.

23. The method of Claim 20, wherein the amount of time measured is from about 1.5 hours to about 2 hours.

24. The method of Claim 20, wherein the amount of time measured is about 2 hours.

25. A blood constituent monitor comprising:

a traditional measurement system configured to withdraw an amount of whole blood from a patient, and configured to analyze a blood constituent in the amount of whole blood to generate a traditional monitor output representing a property of the blood constituent;

a non-invasive monitor having a thermal gradient inducing element configured to be placed in contact with the skin of the patient, the non-invasive monitor configured to analyze the blood constituent in the patient to produce a non-invasive monitor output by detecting thermal radiation emitted by the blood constituent; and

a data link connected to the traditional measurement system and connected to the non-invasive monitor, the data link configured to transmit the output of the traditional measurement to the non-invasive monitor;

wherein the blood constituent monitor is configured to compare the traditional monitor output and the non-invasive monitor output.

26. The monitor of Claim 25, wherein the non-invasive monitor is configured to correct subsequent non-invasive monitor outputs based on the error.

27. The monitor of Claim 25, wherein the traditional measurement system is capable of performing an electro-chemical analysis of the amount of whole blood withdrawn.

28. The monitor of Claim 25, wherein the traditional measurement system further comprises a whole blood withdrawal portion that comprises a needle.

29. The monitor of Claim 25, the traditional measurement system further comprises a whole blood withdrawal portion that comprises a laser.

30. The monitor of Claim 25, wherein the traditional measurement system further comprises a whole blood withdrawal portion that comprises a lancet.

31. The monitor of Claim 25, wherein the traditional measurement system further comprises a whole blood withdrawal portion that comprises a finger-stick.